



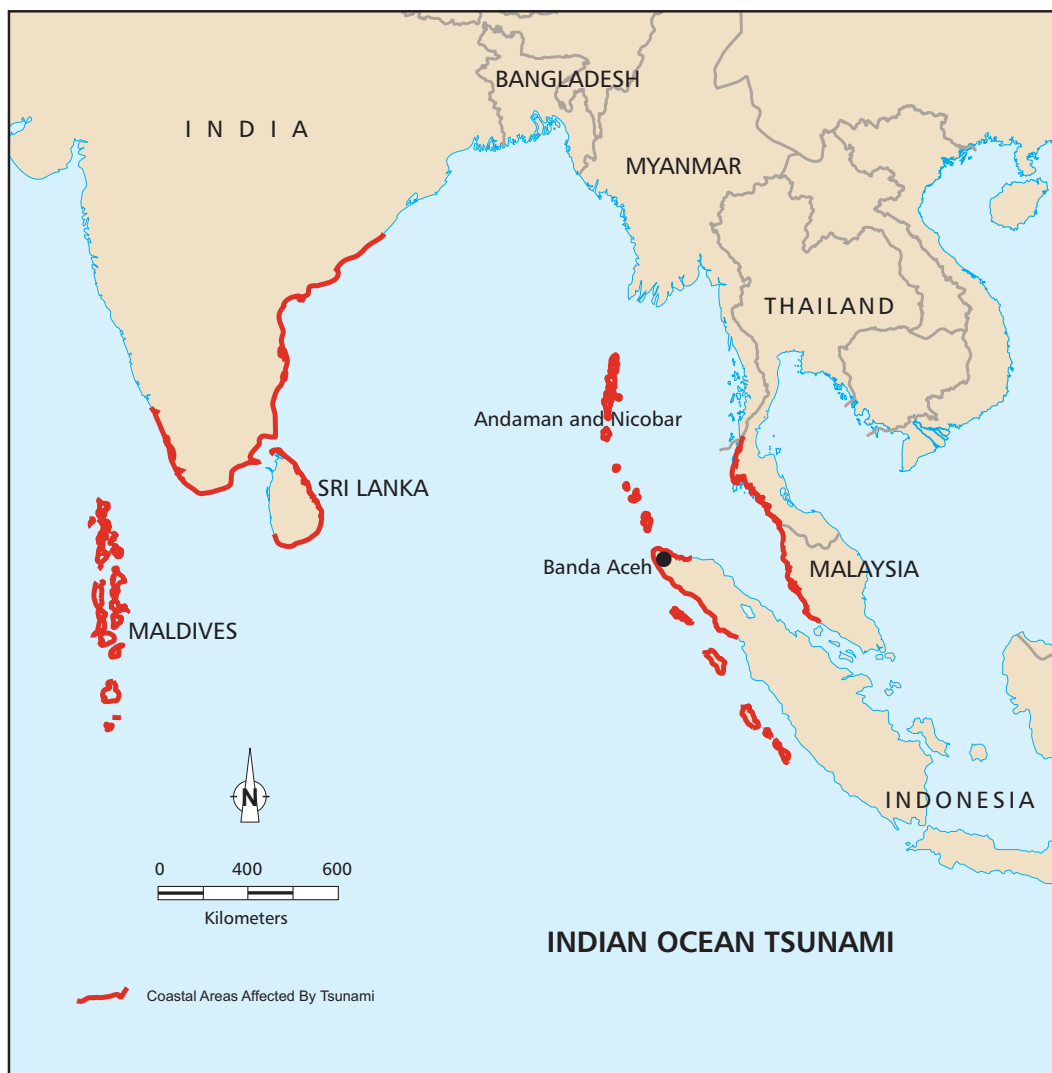
ADB

FROM DISASTER TO RECONSTRUCTION

A Report on ADB's Response to the Asian Tsunami

14 December 2005

Asian Development Bank



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Preface

The magnitude 9.0 earthquake and associated tsunami that struck the Indian Ocean perimeter on 26 December 2004 was a natural disaster of epic proportions. The number of dead and missing, at nearly 230,000, was the largest ever caused by a tsunami. A staggering 1.2 million people were displaced. Media coverage showed both the horror of the disaster and the quick, effective humanitarian relief efforts of the United Nations, civil society organizations, and other agencies.

The Asian Development Bank (ADB) reacted quickly. By mid-February, a special fund with an initial \$600 million contribution—the Asian Tsunami Fund (ATF)—was approved to provide prompt and effective grant financing for rehabilitation, reconstruction, and associated development activities in the tsunami-affected countries. This level of grant financing was unprecedented in ADB history. By April, ADB projects and technical assistance for rehabilitation and reconstruction were approved for all five of the most severely affected countries—India, Indonesia, Maldives, Sri Lanka, and Thailand.

ADB has now fully committed the ATF grant funds. And, with other forms of support, including new and reallocated loans, our total commitment has reached \$851 million. ADB is assisting governments restore livelihoods; provide basic social services, such as primary education and health care; revitalize community infrastructure with an emphasis on water supply and sanitation; supply permanent shelters; and rebuild roads, power facilities, and other major infrastructure.

Four main principles guide ADB's post-tsunami assistance. First, strong national and local leadership—now evident in all the affected countries—is required to achieve sustainable reconstruction programs. Where local capabilities were overwhelmed by the magnitude of the disaster, ADB will provide assistance to help fill the gaps. Second, community-driven participation in the reconstruction process is needed to ensure that specific local needs are properly addressed and that reconstruction improves on pre-tsunami conditions whenever possible. Third, mechanisms should be in place to facilitate transparency in tsunami reconstruction. And fourth, close coordination and cooperation with governments and other development partners can help smooth reconstruction and development assistance, and minimize any gaps or overlaps.

The "High Level Coordination Meeting on Rehabilitation and Reconstruction Assistance to Tsunami-Affected Countries," held on 18 March at ADB Headquarters, was an early example of how various organizations could come together in a spirit of cooperation. More than 50 organizations attended the meeting. They identified and discussed lessons learned, coordination and harmonization issues, roles for nongovernmental organizations and the private sector, mechanisms to ensure good financial governance, and other fundamental issues. Importantly, the participants agreed that a regional tracking matrix be prepared to capture all forms of assistance, including official development assistance, funds from civil society organizations, and help from the private sector.

The tragedy of the Indian Ocean tsunami will hopefully enable all of us to learn from each other and work together to reduce our vulnerability to such disasters in the future.

Bindu N. Lohani
ADB Tsunami Task Force Coordinator

I. Introduction

On Sunday morning, 26 December 2004 at 7:59 a.m. local time, a magnitude 9.0 earthquake struck off the western coast of Sumatra. In the first 100 seconds it created a northwest-southeast rupture about 400 kilometers (km) long and 100 km wide. After another 100 seconds it continued at a slower pace, curving nearly due north up the rest of the 1,200 km fault line. The seismic energy released was the equivalent of 250 megatons of TNT. So when people described the devastation “as if towns were hit by an atom bomb,” they were, in energy terms, correct.

As a consequence of the earthquake, the seabed rose 4–5 meters (m) in some places, displacing a phenomenal 30 cubic kilometers of water and triggering massive tsunamis traveling up to 1,000 km/hour across the Indian Ocean. In Indonesia’s Nanggroe Aceh Darussalam (Aceh) province, closest to the earthquake’s epicenter, scientists investigating geological damage estimate that waves as high as 24–30 m crashed into the western coastline and traveled up to 5 km inland.

The devastation in terms of its human toll was staggering (Table 1). Over 200,000 people were killed and missing. More than one million people were displaced. In some places, virtually entire communities were lost.

In the four countries requesting substantial assistance from the Asian Development Bank (ADB)—India, Indonesia, Maldives, and Sri Lanka—overall losses were estimated to be in excess of \$9 billion. In the first month, the international community, coordinated through the United Nations (UN) Flash Appeal, raised an unprecedented \$977 million in pledges for emergency relief, especially for potable water, sanitation, health care, food, temporary shelter, and the often gruesome cleanup.

Table 1: Tsunami Losses

Country	Number of			Estimated Overall Damage (\$ billion)
	Dead	Missing	Displaced/ Injured	
India	12,405	5,640	6,913	2.560
Indonesia	131,029	37,000	556,638	4.500
Maldives	82	26	29,577	0.472
Sri Lanka	35,322		516,150	1.000
Thailand	5,395	2,817	54,500	0.711

Sources: Government of India; United Nations Development Programme; Government of the Maldives; Government of Sri Lanka; UN Resident Coordinator, Thailand.

ADB's Role in Disaster and Emergency Assistance

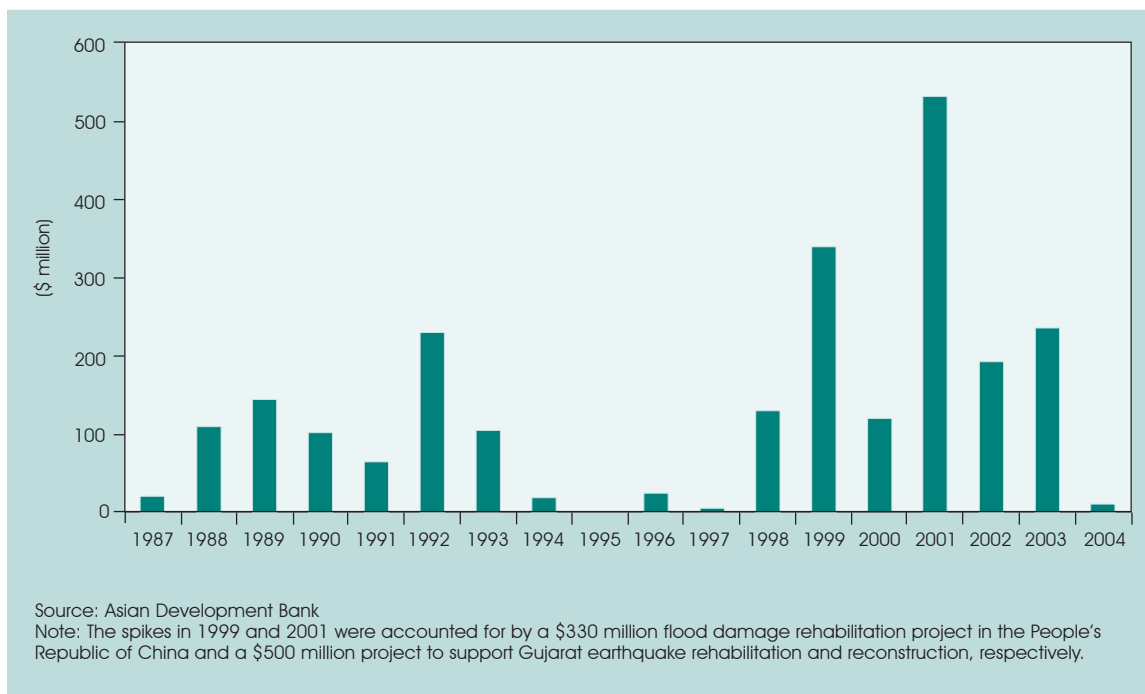
The ADB Charter, like the charters of other multilateral development banks, stipulates that the organization cannot provide humanitarian relief. Rather, it is to focus its emergency assistance on development, including rehabilitation and reconstruction.

ADB's first emergency project was approved in 1987, and a further 48 projects were approved up to 2004 (Figure 1). The experiences suggested the need for a more holistic approach to disaster management, covering all aspects, from prevention and preparedness to mitigation and recovery. This approach is embodied in the current Disaster and Emergency Assistance Policy, approved in 2004. The policy, calls for mainstreaming disaster risk management as an integral part of the development process, stresses coordination among development and relief organizations when disaster strikes, and outlines organizational arrangements in ADB for planning, implementing, and communicating effectively on disaster and emergency-related assistance.

The policy recognizes that disaster and post-conflict rehabilitation and reconstruction are much more than just building new roads, bridges, and schools: these should also strengthen or rebuild institutions, develop appropriate policies, and train people. It also prescribes procedural flexibility for rapid approval of short-term

assistance to help rebuild high-priority physical assets and restore economic, social, and governance activities. These complement humanitarian relief efforts by other development partners, consistent with the objective of easing the transition from relief to development.

Figure 1. Annual Lending for Emergency Assistance, 1987–2004



II. ADB's Response to the Tsunami

Immediate Response

After any disaster, and particularly one of this magnitude, three urgent tasks must be addressed concurrently: (i) providing relief for the immediate needs of the survivors; (ii) dealing with the shock of devastation and loss of life; and (iii) coordinating resources for assessing damage and identifying needs, both immediate and for longer-term reconstruction and rehabilitation.

In the case of the tsunami, as in many past natural disasters, civil society organizations (CSOs), UN agencies, and the military quickly mobilized, providing resources and addressing the immediate needs of affected populations. Concurrently, ADB, together with these and other development partners and government agencies, was assembling teams of experts to carry out damage and needs assessments (Box 1). In Sri Lanka, ADB's country-based staff were in the field immediately following the tsunami to temporarily redirect resources from ongoing ADB-assisted projects to clear blocked roadways, and to help deliver potable water.

As early as 5 January, ADB signed a memorandum of understanding with Indonesia, laying out a framework for emergency assistance. Throughout January and into February, ADB teams worked closely with governments, development partners, and civil society in Indonesia, the Maldives, and Sri Lanka, to prepare damage and needs assessments.

The vast amount of assistance required meant that cooperation among all main actors was essential. Cooperation has been exemplary (if not trouble-free). For example, in undertaking the damage and needs assessment in the Maldives, ADB experts focused on transport and telecommunications infrastructure, water supply, and power needs, while the World Bank focused on education, health, and housing.

There was similar coordination in Indonesia and Sri Lanka with the World Bank, Japan Bank for International Cooperation, and other partners.

The damage and needs assessments provided the foundation for preparing governments' ongoing relief and recovery programs, and for preparing projects and programs by development partners in support of government plans. A summary of ADB's assistance to each of the five countries is provided in Section III.

By 6 January, a paper had been prepared for distribution to concerned ADB staff that outlined priority issues staff needed to consider in designing and implementing assistance to tsunami-affected countries, especially in the medium term, and options for responding to the identified issues. Risk reduction, melding reconstruction with sustainable development, and an "all-disasters" approach to rebuilding better housing and infrastructure were some of the paper's recommendations.

By 12 January, a preliminary impact assessment of affected economies based on initial damage and loss assessments was completed. The main conclusion was that despite the unprecedented loss of human life, homelessness, and displaced populations, the macroeconomic impact of the disaster, i.e., the aggregate effect on the national economy, would be limited in India, Indonesia, and Thailand because the tsunami struck at relatively isolated localities. In the Maldives, and to a lesser extent Sri Lanka, the macroeconomic impact was expected to be far more severe as damage and losses were a much higher percentage of gross national income. The impact assessment, for example, estimated that the Maldives economy, which depends largely on tourism revenues, would take two years' worth of gross national income to repair damage to homes and infrastructure. Nonetheless, while the direct macroeconomic effects across the affected region were projected to be generally marginal, the assessment did suggest the

Box 1. ADB Response Timeline: Selected Milestones

December 2004	26	Earthquake and tsunami occur.
	31	President Chino announces an initial \$325 million in emergency assistance.
	31	ADB project contractor clears vital highway between Bentota and Matara, allowing relief supplies to reach affected areas quickly.
January 2005	5	ADB and Government of Indonesia sign memorandum of understanding on framework for tsunami-affected areas.
	5	ADB staff begin work on the joint needs assessment with World Bank and UN in Indonesia, and prepare for assessments to begin in Maldives and Sri Lanka by 10 January.
	6	President Chino attends Jakarta conference and increases available funds to \$675 million; visits stricken areas in Indonesia.
	11	Japan provides \$20 million increase to its trust funds at ADB to support tsunami relief.
	13	ADB releases initial assessment of earthquake and tsunami impact.
	15	President Chino visits tsunami-affected areas in Sri Lanka.
	17	First draft of the damage and needs assessment report submitted to the Government of the Maldives.
	19	Preliminary damage and loss assessment for Indonesia released.
	19	Director General Senga leads consultation with World Bank in India.
	19-20	ADB participates in joint needs assessment in India.
February	24-26	Vice President Jin visits affected islands in the Maldives.
	2	Preliminary damage and needs assessment for Sri Lanka released.
	3	ADB convenes roundtable about tsunami impact on insurance industry.
	7	Ongoing Program for Conflict-affected Communities in Sri Lanka extended to tsunami victims.
	17	ADB approves \$600 million Asian Tsunami Fund.
March	28	ADB approves loan reallocation for tsunami-affected people in Sri Lanka.
	3	Technical assistance provided for the Sri Lanka Post-Tsunami Needs Assessment and Preparation for Emergency Assistance Implementation Strategies.
	8	President Kuroda visits tsunami-affected areas in Indonesia.
	14	Preliminary damage and needs assessment for India released.
	17	ADB hosts Maldives Development Partners' Meeting for Post-Tsunami Response.
	18	ADB hosts High-level Coordination Meeting on Rehabilitation and Reconstruction Assistance to Tsunami-Affected Countries.
April	31	\$20 million grant and \$1.8 million loan approved for emergency assistance to the Maldives.
	7	ADB co-hosts Expert Meeting on Corruption Prevention in Tsunami Relief.
	11	\$300 million grant approved for emergency assistance to Indonesia.
	14	\$100 million grant and \$100 million loan approved for emergency assistance to India.
	14	\$197 million in grants (\$150 million tsunami assistance; \$14 million post-conflict assistance) and loans (\$7 million tsunami assistance; \$26 million post-conflict assistance) approved for Sri Lanka.
May	29	\$1 million grant approved to help restore livelihoods of tsunami-affected farmers in Maldives.
	4	ADB Extended Mission officially opened in Medan, Sumatra.
July	12	World Bank and ADB sign agreements with India to support reconstruction of tsunami-affected areas.
	7	\$1.7 million grant approved for Thailand's tsunami-affected Andaman region, including coastal zone management.
August	15	Australia provides \$3.7 million and Luxembourg provides \$1 million equivalent to the Asia Tsunami Fund.
	29	Senior Resident Advisor assigned to ADB Extended Mission in the Maldives.

tsunami could increase the number of poor by up to two million, meaning restoring livelihoods would be of paramount concern.

Another early activity worth mentioning was establishing a field presence. Three extended missions (field offices) have been established: in India's two affected States of Tamil Nadu and Kerala; in Medan, Indonesia, with a project management office in Banda Aceh; and in the Maldives where ADB and the World Bank have a joint office. They provide strong coordination with governments and development partners, as well as maintain close oversight of rehabilitation and reconstruction activities supported by ADB.

Asian Tsunami Fund and Other ADB Financing

On 28 January, ADB announced its intention to establish a \$600 million multidonor Asian Tsunami Fund (ATF), a unique, dedicated source of grant financing to support priority rehabilitation and reconstruction needs on a multi-sector basis. It is the first ADB facility to channel funds targeted specifically for disaster relief and reconstruction on a regional scale. Available sectors for financing include (i) public services and/or utilities, such as water supply and sanitation facilities, electricity, and communications; (ii) infrastructure, such as roads, railways, urban transport, ports, and airports; (iii) social infrastructure and services, such as health and education infrastructure and services; (iv) agriculture and fisheries; (v) housing; (vi) restoring livelihoods; (vii) containing environmental damage, particularly in the coastal areas; and (viii) disaster prevention.

To capitalize the ATF, ADB transferred savings from its ordinary capital resources. Later, Australia contributed \$3.7 million equivalent earmarked for reconstruction work in Sri Lanka and Luxembourg contributed \$1.0 million to rehabilitate irrigation schemes in the Indonesian provinces of Aceh and North Sumatra.

ADB has now fully committed the ATF.¹ Tsunami-related approvals cover investment projects in India, Indonesia, Maldives, and Sri Lanka; a contribution to the Multi-Donor Trust Fund in Indonesia; and technical assistance projects in Thailand. In addition to

commitments from the ATF, ADB has provided assistance from other sources, bringing its total assistance to \$851.4 million (Table 2). Of this amount, \$671.0 million, or 79%, is grant. Funds from development partners such as Canada, European Community, Japan, Netherlands, Norway, and United Kingdom have been provided either through cofinancing or through contributions to special funds established at ADB.

Overall, the drawdown from the ATF has been slower than expected due to a number of constraints, discussed further in Section IV. A major reason has been delays in start-up activities that in turn were due largely to the magnitude of the devastation and the low level of local capacity as a result of the disaster. ADB will continue to work with affected communities, governments, and development partners in finding ways to overcome these constraints.

High-level Coordination Meeting on Rehabilitation and Reconstruction Assistance to Tsunami-Affected Countries

To help ensure that the world's attention remained focused on tsunami support and that donors' confidence in affected countries would remain high, ADB invited ministers and senior government officials, representatives from development partners and contributors to ADB's concessional Asian Development Fund, members of civil society, and private sector representatives to a High Level Coordination Meeting held at ADB Headquarters on 18 March. The meeting was to complement country-level meetings by providing a regional perspective.

The meeting provided a forum to discuss how recovery efforts could avoid wasteful duplication and overlap in the medium term. It was the first comprehensive regional overview of the rehabilitation and reconstruction effort. Participants discussed how information could be organized and regularly updated across countries, and examined possible areas for joint work, partnership, coordination, and harmonization. Importantly, the meeting examined how post-tsunami rehabilitation and reconstruction could be firmly integrated into medium- and long-term development programs. Former United States Presidents George H. W. Bush and William J. Clinton together taped a special video message to the meeting participants,

¹ Remaining uncommitted funds were approved for emergency earthquake assistance to Pakistan.

**Table 2: Approved/Proposed Tsunami-Related Assistance: Summary of Funding Assistance
As of 30 November 2005**

Funding	Indonesia	India	Maldives	Sri Lanka	Thailand	Total
A. APPROVED						
I. Investment Projects						
1 ADB Financed						
ATF	301.00 ^{a/}	100.00	20.00	153.70 ^{b/}		574.70
OCR	31.50 ^{c/}	100.00		7.00 ^{c/}		138.50
ADF	33.10 ^{c/}		1.80 ^{b/}	7.00 ^{c/}		41.90
Subtotal	365.60	200.00	21.80	167.70	0.00	755.10
2 Non-ADB Financed/ Cofinancing						
EC				53.20		53.20
CIDA	4.00					4.00
NET	8.50			8.70		17.20
DFID	7.50					7.50
Subtotal	20.00	0.00	0.00	61.90	0.00	81.90
Total (I)	385.60	200.00	21.80	229.60	0.00	837.00
II. TAs and JFPR Projects						
1 ADB Financed						
ATF					2.00	2.00
Subtotal	0.00	0.00	0.00	0.00	2.00	2.00
2 Non-ADB Financed/ Cofinancing						
JFPR	6.00		1.00	4.00		11.00
PRF				0.50		0.50
PEF			0.25	0.25		0.50
Water Fund			0.40			0.40
Subtotal	6.00	0.00	1.65	4.75	0.00	12.40
Total (II)	6.00	0.00	1.65	4.75	2.00	14.40
Total-Approved	391.60	200.00	23.45	234.35	2.00	851.40
B. PROPOSED/UNDER PROCESSING - TAs AND JFPR PROJECTS						
Non-ADB Financed/ Cofinancing						
JFPR	4.00	5.00				9.00
TBD					0.50	0.50
Subtotal	4.00	5.00	0.00	0.00	0.50	9.50
Total-Proposed	4.00	5.00	0.00	0.00	0.50	9.50
TOTAL	395.60	205.00	23.45	234.35	2.50	860.90

^{a/} Including contribution/cofinancing of \$1.0 mn from Luxembourg channeled through the ATF

^{b/} Including contribution/cofinancing of \$3.7 mn from Australia channeled through the ATF

^{c/} Reallocations

ATF = Asia Tsunami Fund, OCR = Ordinary Capital Resources, ADF = Asian Development Fund, EC = European Community, CIDA = Canadian International Development Agency, NET = Netherlands, DFID = United Kingdom Department for International Development, JFPR = Japan Fund for Poverty Reduction, PRF = Poverty Reduction Cooperation Facility, PEF = Poverty and Environment Fund, TA = technical assistance, TASF = Technical Assistance Special Fund, TBD = to be determined.

emphasizing the need for coordination among all stakeholders and financial accountability over funds.

A prototype rehabilitation and reconstruction tracking matrix was presented, bringing together information on (i) what work was being done and planned; (ii) who was doing the work; (iii) what measurable results were expected; (iv) where the work was being done; (v) when the work was expected to begin and end, and its current status; and (vi) the source, amount, and status of financing.

Meeting participants recommended that the United Nations Development Programme (UNDP) and ADB work with governments in developing a regional summary tracking mechanism. A web-based tracking system known as the Development Assistance Database (DAD) is now online in Indonesia, Maldives, Sri Lanka, and Thailand. UNDP plans to establish an aggregated regional tracking mechanism as soon as possible.

A significant part of the meeting discussion was devoted to learning from one another's experience in dealing with major natural disasters, including the Gujarat and Kobe earthquakes. The participants highlighted the following issues, among others:

- Distribution of funds must be predictable, transparent, strategic, and effective.
- Affected countries and communities were acknowledged to be economically and socially diverse, with many similarities but also with their own unique needs on the ground.
- Donor coordination is essential for civil society organizations (CSOs) and the private sector as well as among official donors. Recommendations on common procurement, financial management, audit, and reporting arrangements were discussed.
- Gaps in financing, planning, skills, organization and implementation, and transparency were all addressed, as were some overprogramming and overlaps at the central and local levels and among CSOs and donors.
- Capable private sector and CSO participants must be offered strong partnership in rehabilitation and reconstruction programs. Many of the CSO and private sector representatives in attendance were from organizations with significant resources and in-depth knowledge of local conditions, and they indicated a willingness to explore how they might

help get the economies of communities and regions back on their feet, working with local government and business leaders to improve long-term economic growth.

- Multi-donor funds can facilitate coordination among donors, reduce transaction costs, and ensure harmonized procedures.
- Assurances were given that accountability and transparency would remain top priorities.

One day prior to the 18 March meeting, ADB hosted and co-sponsored the Maldives Development Partners Meeting for Post-Tsunami Response at ADB Headquarters. The meeting, which was attended by about 50 participants and observers, discussed short- and medium-term post-tsunami recovery strategy and sector priorities, identified areas of possible cooperation with development partners, and solicited development partners' active participation in supporting the government's urgent recovery efforts. Several development partners made specific commitments of support during the meeting.

Expert Meeting on Corruption Prevention in Tsunami Relief²

Humanitarian relief and reconstruction following natural disasters are particularly vulnerable to corruption. Sudden flows of large amounts of money, goods, and services, pressure to deliver aid quickly, as well as the substantial economic opportunities that arise from large-scale reconstruction, all contribute to increasing the risk of corruption, waste, and mismanagement. ADB, together with the Organisation for Economic Co-operation and Development (OECD), Transparency International (TI), and the Indonesian Government jointly hosted a two-day meeting on preventing corruption in tsunami relief on 7–8 April. Participants from India, Indonesia, Malaysia, Maldives, Sri Lanka, and Thailand, bilateral and international donor organizations, and civil society, discussed risks of fund misuse and identified concrete ways to mitigate these risks.

² Asian Development Bank, Organisation for Economic Co-operation and Development, and Transparency International. 2005. *Curbing Corruption in Tsunami Relief Operations*. Manila

Participants reached a broad measure of agreement on a framework for action that provided applicable solutions to counter corruption in humanitarian relief and reconstruction efforts for use by policy makers, civil society, donors, and international institutions. The framework included the following elements:

- **Country Ownership:** Governments of affected countries—in dialogue with local communities, civil society, donors, and the private sector—should commit themselves to translate national reconstruction strategies into prioritized, results-oriented operational programs, while donors should respect affected countries' leadership in relief and reconstruction.
- **Community Participation:** The active participation of affected communities in relief and reconstruction decisions can minimize the risk of corruption in the delivery of aid.
- **Access to Information:** To ensure more effective participation, affected communities need accessible and understandable information about relief, reconstruction, and entitlements. Governments, public and private donors, international organizations, and local CSOs should harmonize internationally recognized information strategies.
- **Transparency of Aid Flows:** A major concern of all stakeholders is the transparency and traceability of aid flows. Establishing appropriate mechanisms to track aid flows from source to end-user, and publishing this information, becomes crucial.
- **Monitoring and Evaluation:** Effective independent monitoring and evaluation are key to ensuring transparent relief and reconstruction programs. Effective internal control and external auditing complements community-led approaches.
- **Complaints and Reporting Mechanisms:** Affected countries should provide accessible grievance procedures, including corruption reporting channels and protection for whistle-blowers.
- **Mutual Accountability and Coordination:** A major priority for affected countries, civil society, and donors is to enhance mutual accountability and coordination, which strengthens public support.
- **Capacity Development for Improved Governance and Corruption Deterrence:** The tsunami swept away much institutional capacity in affected regions. Consequently, strengthening individual and institutional capacity is critical for countering corruption in disaster relief and reconstruction efforts.

Collaboration with Governments, Development Partners, and Other Stakeholders

ADB's response to the tsunami has above all been anchored on consultation, collaboration, and cooperation with concerned governments, development partners such as UN agencies and the World Bank, and other stakeholders on the ground, whether local officials, CSOs with deep local knowledge, or tsunami-affected populations themselves.

Aside from direct involvement in coordinating and conducting damage and loss assessments in the tsunami-affected countries, ADB has been an active participant with the UN Office of the Special Envoy for Tsunami Recovery as it helps maintain international focus on recovery, reconstruction, and development.

III. Ongoing Rehabilitation and Reconstruction

This section summarizes the commitments ADB has made toward rehabilitation and reconstruction in the tsunami-affected countries.

ADB's assistance, as well as that of other development partners, aims to improve the pre-tsunami conditions in affected communities wherever possible. In other words, the goal of the rehabilitation and especially reconstruction is to "build back better."

The assistance is tailored to specific conditions in the respective countries. Besides addressing high-priority social and physical infrastructure, assistance is also targeted at livelihood restoration, capacity building (e.g., in financial management of recovery programs), and environmental rehabilitation.

Box 2 gives examples of ongoing rehabilitation and reconstruction efforts. These examples are not necessarily attributable exclusively to ADB or any other particular development agency. Often two or more development partners and the government are involved together in a particular effort—for example, about 30 organizations are involved in supporting the rebuilding of damaged schools in Sri Lanka. In this spirit of partnership, accomplishments are often reported as efforts of the development community rather than attributed solely to a particular organization or agency. Further details are expected in country reports—also joint efforts—expected to be released in commemoration of the first year anniversary of the earthquake and tsunami.

Box 2: Examples of Ongoing Rehabilitation and Reconstruction

The following examples of rehabilitation and reconstruction activities by governments and their development partners come from three of the countries that suffered most from the tsunami—Indonesia, Maldives, and Sri Lanka.

Housing: In Aceh and Nias, about 25,000 houses have been or are in the process of being constructed. In Sri Lanka, ambitious targets for moving displaced people from tents into more substantial transitional shelters have been met. In the Maldives, about half of the 29,000 displaced people have been provided transitional shelters until permanent housing can be built—the remaining people stay with friends and relatives or have returned to their damaged homes.

Infrastructure: More than 2,000 km of national and provincial roads were damaged by the tsunami in Sri Lanka, and so rehabilitation is extremely complex. Preparatory work, involving an extraordinary level of coordination and cooperation between the government and several development partners, has already been completed, and rehabilitation has begun on key roads, including the Kalutara to Matara road. In the Maldives, navigation beacons and reef and harbor entrance markers have been replaced on 80% of the islands. Twenty-one damaged harbors have been surveyed, with one already rebuilt and reconstruction started on seven others.

Livelihood Restoration: In Aceh and Nias, start-up programs, including grants and microfinance facilities, are being provided to several thousand small and medium enterprises, allowing them to restart their businesses. In the Maldives, livelihood revival programs are underway to restart crop production, resume fishing and fish processing, and restart local businesses through cash-for-work initiatives, small grants, and micro-credit programs.

Health and Education: In Sri Lanka, master plans to rehabilitate or reconstruct all 182 damaged schools are expected to be completed by year's end, and construction has already started on 18. In Indonesia, reconstruction and re-staffing of health facilities is ongoing in about half of all damaged facilities. And in the Maldives, 67 damaged schools and preschools are being rehabilitated; temporary classrooms and teachers' quarters have been built in the interim.

Table 3: INDIA: Tsunami Emergency Assistance (Sector) Project [TEAP]

Components	Allocation (\$ million)	Key Activities
Livelihood	58.8	<ul style="list-style-type: none"> Restore the livelihoods of the affected poor and low-income households already organized into self-help groups (SHGs) and other similar groups—recognized by state governments as affected by the tsunami—by providing micro-enterprise training and establishment support Form new SHGs (both genders) for affected households not yet organized in community-based groups, to restore livelihoods through micro-enterprise training and establishment support Replace productive assets (excluding housing) of tsunami-affected households Upgrade skills Mitigate risk through insurance for all affected households that receive assistance Rehabilitate and reconstruct community-based infrastructure
Transportation (Roads and Bridges, Ports and Harbors)	50.7	<ul style="list-style-type: none"> Rehabilitate seriously damaged sections of state roads in affected districts of Tamil Nadu and Kerala to pre-tsunami levels or to prescribed national standards Rehabilitate damaged drainage facilities Rehabilitate bridges in affected areas Construct bridge connections to replace temporary crossing arrangements, unbridged crossings, or for inoperable river-crossing ferries as evacuation routes from a disaster prevention perspective Dredge ports, harbor basins, and approach channels Rehabilitate breakwaters for ports and fishing harbors Rehabilitate fishing harbor facilities, such as compound walls Rehabilitate damaged roads and port facilities, such as electrification systems, wharfs, and piers Procure equipment such as dredgers and navigation aids
Rural and Municipal Infrastructure (Water Supply and Sanitation, and Other Rural and Municipal Infrastructure)	85.3	<ul style="list-style-type: none"> Restore and upgrade damaged water supply systems Upgrade affected water supply systems to multivillage systems with more reliable sources Rehabilitate/upgrade sanitary complexes and solid waste management facilities Conduct sanitation and environmental awareness campaigns Rehabilitate and upgrade village and municipal roads, drainage canals, public buildings, and damaged electricity line networks and distribution transformers
Capacity Building and Implementation Assistance	5.2	<ul style="list-style-type: none"> Support detailed assessments and verification of damage Prioritize subprojects and prepare subproject appraisal reports Incorporate disaster mitigation into the rapid planning, design, and implementation of projects Provide technical and institutional support for special studies such as aquifer and hydrology studies Support incremental costs

Table 4: INDONESIA: Earthquake and Tsunami Emergency Support Project (ETESP)

Components	Allocation (\$ million)	Key Activities
Community Infrastructure Revival (Housing, Rural Water and Sanitation, and Irrigation)	113.5	<ul style="list-style-type: none"> Rehabilitate and reconstruct about 16,000 housing units Rehabilitate water and sanitation facilities Rehabilitate high-priority tsunami- and earthquake-damaged infrastructure
Livelihood Support (Agriculture, Fisheries and Micro-enterprises)	81.0	<ul style="list-style-type: none"> Rehabilitate farming and fisheries sectors Restore tree crops, capture fisheries, and related infrastructure Support community empowerment Provide support for livelihood and business revival
Social Sector Restoration (Health, Education, and Skills Development)	44.0	<ul style="list-style-type: none"> Strengthen health service delivery and planning capacities Rehabilitate and reconstruct educational institutions and facilities Support life-skills development
Physical Infrastructure Rehabilitation (Roads and Bridges, and Power)	29.0	<ul style="list-style-type: none"> Rehabilitate Aceh East Coast Road Reconstruct low and medium voltage distribution lines
Cross-Cutting Support (Spatial Planning, Environmental Management, and Fiduciary Governance)	22.5	<ul style="list-style-type: none"> Support spatial planning, environmental assessments, and waste disposal Enhance the capacity of the Supreme Audit Institution and other bodies to oversee fund utilization Establish financial management and internal control systems within Rehabilitation and Reconstruction Agency Establish a Special Treasury Office in Banda Aceh

Table 5: MALDIVES: Tsunami Emergency Assistance Project (TEAP)

Components ^a	Allocation (\$ million)	Key Activities
Water Supply, Sanitation, and Solid Waste Management	5.0	<ul style="list-style-type: none"> Rehabilitate and reconstruct infrastructure damaged by the tsunami (including sewage systems, networks, and outfalls) Provide water and sewage treatment and disposal facilities for displaced populations after the tsunami rendered their islands uninhabitable Provide solid waste management systems and facilities
Transport	3.6	<ul style="list-style-type: none"> Rehabilitate and/or reinstate damaged or destroyed maritime navigation aids Procure emergency inter-island transport capacity for reconstruction work Rehabilitate damaged jetties Repair sea and quay walls, and causeways Dredge harbor basins and approach channels Rehabilitate Malé international airport
Power	3.1	<ul style="list-style-type: none"> Rehabilitate damaged power supply systems, including supply and installation of new generators and distribution networks Install streetlights Replace/reconstruct damaged powerhouses
Fisheries	3.2	<ul style="list-style-type: none"> Provide fish processors on 128 islands with processing equipment, working capital, and extension services Strengthen the capacity of the Ministry of Fisheries, Agriculture, and Marine Resources
Agriculture	3.1	<ul style="list-style-type: none"> Provide affected farmers in the perennial and field crop sectors with tools and equipment, and working capital to rehabilitate their farms
^{a/} Quick-disbursing component not included		

Table 6: Sri Lanka: Tsunami-Affected Areas Rebuilding Project (TAARP)

Components	Allocation (\$ million)	Key Activities
Legal Assistance, Governance, and Anticorruption	2.2	<ul style="list-style-type: none"> • Provide legal assistance to tsunami survivors to help address legal and documentary issues • Establish a decentralized mechanism for tsunami survivors for private dispute resolution and grievance review against public officials • Conduct training and awareness workshops for judges, magistrates, district officials, and the public on the potential tsunami or disaster emergency-related legal issues, disputes, or cases that are likely to arise • Replacement of birth, death, and marriage certificates, property titles, and identification cards • Assist the Ministry of Finance and Planning to ensure good governance in nongovernment organizations' provision of tsunami assistance
North East Coastal Community Development (Infrastructure, Coastal Zone Planning, and Natural Resources)	23.7	<ul style="list-style-type: none"> • Construct small-scale community infrastructure • Support livelihood development activities • Promote community development planning and coordination at the local authority level • Support restoration and sustainable management of the natural habitat damaged by the tsunami, and coastal resource planning and management at the district and provincial levels
Road Rehabilitation and Reconstruction (National Roads and Access Roads)	55.2	<ul style="list-style-type: none"> • Rehabilitate, reconstruct, or improve road links damaged by the tsunami and improve the overall transport network • Rehabilitate access roads and bridges damaged by the tsunami in the Galle, Matara, and Hambantota districts
Water Supply and Sanitation	10.1	<ul style="list-style-type: none"> • Rehabilitate drinking water supply and sanitation in Hambantota, Batticaloa, and Muttur districts
Southern Province Reconstruction (Infrastructure and Shelter)	20.2	<ul style="list-style-type: none"> • Restore livelihoods by creating jobs for locally based skilled and unskilled labor, and reconstructing community and urban infrastructure • Construct or repair shelter for vulnerable tsunami-affected families at preexisting house sites
Coastal Resources Management	15.1	<ul style="list-style-type: none"> • Repair damage to coastal stabilization structures and harbor breakwaters, extend these structures, identify additional sites for improvements, and provide small fishing boat anchorages and fisheries-related ancillary units • Provide enhanced coastal protection and environmental management along affected coasts by reestablishing green zones or greenbelts through intensive forestation
Rural Finance	5.1	<ul style="list-style-type: none"> • Provide immediate access to noncommercial micro credit • Support micro-enterprise and skills training • Mitigate risk by insuring affected households or individuals that receive assistance through life and property insurance schemes • Provide support for operational costs and rebuilding physical assets of micro-enterprise institutions in remote areas
North East Community Restoration and Development	18.4	<ul style="list-style-type: none"> • Redesign and rebuild structures in the health, education, water supply and sanitation, irrigation, rural roads, village and community development infrastructure, and fishing sectors • Construct or repair shelter for vulnerable tsunami-affected families at preexisting house sites

Thailand

Development Plan for the Tsunami-Affected Andaman Region (\$150,000)

This helped develop an initial regional recovery and reconstruction plan for tsunami-affected areas reflecting more effective approaches to planning than had been adopted in the past. Outputs were an initial regional plan and the detailed scope and terms of reference for a comprehensive regional plan and related sub-plans, for which ADB would subsequently provide support (see below).

Subregional Development Plan for the Tsunami-Affected Andaman Region-Phase II (\$1.7 million)

This will help the government prepare a 15-year subregional development plan (SRDP) for the provinces of Krabi, Phangnga, and Phuket, including priorities and short-term actions to 2008. The SRDP is intended to help the government coordinate and monitor the sustainable planning of the subregion over the medium and long-term, taking a comprehensive and multisectoral view. It comprises four components: Part A-the Structure Plan; Part B-Area Plans; Part C-Sectoral Strategies and Subject Plans; and Part D-Pilot Action Plans.

Supporting Post-Tsunami Activities and Coastal Zone Management in Thailand (\$150,000)

Ongoing activities include (i) a comprehensive review of policies, laws, and regulations related to coastal zone management (CZM); (ii) drafting proposed amendments to existing legal and regulatory documents, or new legislation and regulations, for sustainable CZM; (iii) training seminars on issues of CZM for dissemination to key stakeholders and the public; and (iv) technical and advisory support for the Department of Marine and Coastal Resources of the Ministry of Natural Resources and Environment (MONRE) in dialogue with other MONRE departments and other ministries for institutionalizing the proposed changes to the existing CZM system.

The project will assist government promote sustainable CZM by improving the relevant legal and regulatory framework and ensuring adequate field-level coordination of government and nongovernment agencies involved.

Post-Tsunami Rehabilitation of Agricultural Land and Water Resources (\$500,000 Proposed)

This would help reestablish livelihoods of tsunami-affected rural households through resumption of agricultural production in coastal communities in an environmentally sustainable manner. It would assist government in a comprehensive assessment of the impact of the tsunami on agricultural land and water resources, and develop sustainable agricultural land rehabilitation and management strategies.

IV. Challenges, Constraints, and Lessons Learned

This section highlights challenges and lessons learned that may be of particular relevance to ADB's future emergency assistance to its developing member countries (DMCs), including future support for the tsunami-affected countries. Consequently, it focuses on the rehabilitation and reconstruction phases—especially reconstruction. The lessons learned are drawn primarily from firsthand experience of ADB staff who have been intimately involved in tsunami rehabilitation and reconstruction efforts.

Proactive Measures

Instituting risk reduction measures before disasters strike is consistently identified by concerned agencies around the world as the most important measure that governments can take, and it is highlighted in current ADB policy. The World Bank has estimated that, on average, countries can save \$7 in disaster recovery for every dollar spent on risk reduction measures. This means that national policies and strategies with respect to land ownership and tenure, land use, early warning, disaster compensation, and other issues need to be thought through and put into place before disasters strike. When there is adequate forethought in the form of policies and plans, as well as the means to implement them, then overcoming the inevitable challenges and delays in relief and recovery efforts when a disaster strikes is easier.

Risk reduction should not be undertaken as a stand-alone activity, but mainstreamed into development planning and programs. To achieve this, however, local capacity for risk management must be developed. This

would require assistance from bilateral and multilateral institutions, including such basic tools as vulnerability assessments, hazard mapping, and the use of natural hazard impact assessments. In a similar vein, DMCs, with support from their development partners, could look into the feasibility of establishing a regional emergency response capacity, perhaps working through existing institutions such as the Asian Disaster Preparedness Center. This includes an early warning system, which is already being developed and deployed in the Indian Ocean Basin.

A major consideration in risk reduction for any natural disaster is developing and enforcing proper building codes for private housing and public buildings and structures. It is overwhelmingly evident that “engineered” houses, buildings, and structures do survive such disasters. “Engineered” means that appropriate building codes were included in the design. For private housing this means a system of building permits that have to be checked and approved before construction can begin. This is difficult in remote rural areas, but thousands of lives would have been saved in the tsunami and earthquake.

Increasing attention is being given in some quarters to the use of a comprehensive catastrophe insurance scheme or similar initiatives to address widespread losses from major natural disasters. Realistic approaches to transferring risk need to be examined.

Similarly, ADB, working in collaboration with its DMCs and taking advantage of the experience gained from tsunami recovery efforts, will need to be more proactive in positioning itself to assist with natural and manmade emergencies. This is particularly relevant in terms of the mode of assistance that ADB provides in the aftermath of an emergency. In the future, exploring the benefits

of using a multi-tranche facility and providing budgetary support to affected governments may be worthwhile. While it made large sums of critically needed grant funding available, the model of the Asian Tsunami Fund may not be the most appropriate for future assistance. ADB is now studying other options.

Reconstruction Challenges

We should understand that “reconstruction” is “development.” It is not “relief” (the first stage response focusing on the immediate needs of affected people) or “rehabilitation” (the restoration of previously existing facilities and services up to the same standards).

Consequently, reconstruction demands much of the same decision-making and participatory processes for affected people that are required in contemporary development projects. Because reconstruction is development, the primary interest of governments and development agencies should be in ensuring that good quality works are accomplished, that they address the expressed needs of the affected people, and that they are sustainable. Similarly, a quick fix is not always what the local communities want; many perceive that the long-term prospects for sustainable livelihoods and quality of life are important and will take time.

Taking housing as an example, the relief and rehabilitation operations must ensure that affected people are provided temporary shelters quickly, and that these are supplied with needed provisions (i.e., relief). However, providing permanent housing presents issues of significant complexity. What should be the role of government agencies in house construction? How should public funds be used, if at all, to “compensate” affected people for the loss of private assets? What type of housing should be provided? Should the government treat both the rich and poor, home owners and tenants, the same? Should minimum standards be developed and applied to the assistance? Who should be served first? In effect, the real decision making for reconstruction occurs with the participation of beneficiaries. This is how it should be, but we must accept that inevitably this process takes time.

As implied above, reconstruction planning opens a set of equity issues with respect to surrounding areas. Tsunami-affected areas, in many instances, were next

to or near areas that were largely unaffected. In some instances there was considerable damage where the waves hit, but nearby there was little, if any. It would be politically and ethically difficult to spend vast sums of money to develop one village (or part of a village), and yet leave the immediate neighbors in poverty with deficient public services. Reconstruction as a development activity, therefore, needs to link into a longer-term development strategy for the region where the disaster occurred.

These equity issues become especially relevant in conflict-affected countries, for example Sri Lanka, where persons displaced by the civil conflict may have been internally displaced for many years. Ensuring equitable treatment, in terms of speed and amount of assistance, between conflict-affected and disaster-affected people is an important challenge.

Institutional and Capacity Issues

One aspect that has clearly constrained rehabilitation and reconstruction efforts in some of the countries is the weak local capacity to administer these efforts. In Indonesia, for example, the destructive power of the tsunami swept away much of the local capacity that did exist. The earthquake and tsunami killed many community and local government leaders that otherwise could have helped direct relief and recovery efforts. Beyond the death of many civil servants, the Ministry of Finance office in Banda Aceh, for instance, was destroyed and records lost.

The weakness in local administrative capacity, both on the part of local government and by civil society, has a particularly deleterious impact on reconstruction efforts. Reconstruction demands complex and sensitive decision making with respect to such things as land use, compensation, relocation of families, and the rebuilding of what had been privately-owned assets such as houses or buildings. Administration of reconstruction requires local planning, coordination with funding agencies (national and international, public and private), genuine participation of stakeholders in project planning and implementation, oversight, and dispute resolution. All of these activities tax local capacity under normal development circumstances—they represent much more severe challenges after a

natural disaster of the scope of the tsunami. In addition, the construction industry in some of the tsunami-affected countries is relatively weak and unable to mobilize quickly. In such cases, it may be important for international firms to associate with local firms to meet the demands of the disaster.

The international community very early on identified as a major concern transparency and accountability in the use of the vast funds contributed to the tsunami relief and recovery effort. The affected countries themselves likewise echoed this same concern. All involved rightly have been careful to give adequate attention to ensuring that such mechanisms are in place.

Line agencies should be the implementing agencies for rehabilitation and reconstruction works in their respective sectors. These agencies are already responsible for, and experienced in, implementing regular development programs. However, implementation often places a heavy burden on the responsible line agencies because reconstruction activities are in addition to normal duties. Therefore, extensive use of consultants from experienced civil society organizations and the private sector may be necessary, or it may be necessary to engage a significant number of incremental staff on a temporary basis.

Implementation of an emergency assistance loan can be facilitated by the choice of a strong executing agency that supports line agencies within the government's policies and guidelines. The executing agency should coordinate the whole project. It may also act as (i) approving authority for major contracts, (ii) facilitator for disbursement of funds, (iii) mediator among line agencies, and (iv) focal point for disaster management facilities. In the Maldives, for instance, the government set up a central coordinating body immediately after the tsunami that had authority over all the line agencies and was the sole focal point for all contact with development partners. The executing agency also would oversee the benefit monitoring and evaluation program for projects. Governments may need to establish special institutional arrangements for implementation to ensure a fast approval process, while also maintaining the role of the line agencies. Similarly, governments could allow the executing agency to establish and operate a dedicated project account

into which ADB funds could be directly transferred to ensure efficient and fast disbursements. Where such a coordinating agency is not created or does not have adequate powers, relying on proven executing agencies that are already implementing ongoing projects can be an alternative option. In this case, it is important that central coordination be established on policies that cut across sectors, which is often the case, as by its nature reconstruction affects several issues such as land use, infrastructure, provision of utilities, and restoration of social services.

ADB and other development agencies must recognize likely problems such as those mentioned above and factor them into planning, funding, and implementation processes. In particular, the development agencies can assist governments in recovery efforts by establishing a special field office in the project area as soon as possible, or relying on Resident Missions when these are sufficiently close to the disaster areas.

Information, Consultation, and Participation

The need for adequate consultation with and participation from the affected population has already been mentioned in several contexts, but it cannot be overstated. Participatory decision-making processes, while requiring considerable time and expertise, must be an integral part of the planning, implementation, and monitoring of reconstruction.

Reconstruction experience has shown that it is important to communicate clearly to affected people what measures the government plans to take, any entitled compensation, and the policies to be applied during reconstruction. These policies should be formed using inputs from the disaster areas and must be clearly communicated to local officials and the public at large, with a realistic assessment of the timing and duration of the reconstruction process. This is to help manage expectations and reduce the understandable frustrations of the affected people.

Undertaking extensive public consultation brings transparency, knowledge, and legitimacy to the various recovery programs. It can also help local governments to better resist pressure from influential interests that tend to resist change, demand kickbacks, and so on. In the

case of tsunami recovery, the decision to “build back better,” and not simply replace the assets of poor communities, implies widespread beneficiary involvement and extended decision-making processes as well as local participation in monitoring.

Next Steps

There has been widespread discussion about the pace of rehabilitation and reconstruction in the aftermath of the tsunami, especially in the worst-hit areas. Clearly, no one is satisfied with the pace of rehabilitation and reconstruction. Everyone would like to see the progress quicken, and all reasonable steps should be taken to see that this happens.

The pace of rehabilitation and reconstruction is not a small matter. ADB has estimated that the difference between a fast and slow recovery from the tsunami would result in an additional 1.1 million people left below the poverty line in the five worst-affected countries.

And yet, expectations for fast-tracking rehabilitation and reconstruction must be kept in perspective. Reconstruction will continue to be a long-term undertaking for many of the reasons mentioned above, especially the developmental nature of reconstruction, the determination to build back better, the need for extensive local consultation and participation, and the steps required to ensure that recovery work is fully transparent as well as environmentally responsible.

Most importantly, the sheer magnitude of the physical, human, and capacity losses experienced by the most seriously affected countries will continue to make fast-tracking a very challenging goal. Reconstructing entire communities will take time. In Indonesia, for example, the Rehabilitation and Reconstruction Agency (BRR) is planning to construct

about 75,000 houses in the span of one year, which is equivalent to half the entire annual average for Indonesia as a whole. And still, this is less than half the number of houses estimated to have suffered significant damage in Aceh and North Sumatra.

Looking at the experience from past disasters is also useful to realistically gauge the recovery time required for tsunami-affected countries. Ten years after the Kobe earthquake, local authorities are still in the process of completing rehabilitation programs. In August, the world witnessed the difficulties faced in reacting to Hurricane Katrina in the United States; and it is recognized that recovery will take a number of years. These were events that occurred in areas with financial resources, local capacity, and a private sector capability that are orders of magnitude above the conditions in the tsunami-affected countries.

For the above reasons, the responsible governments and financing institutions (like ADB) that are not involved directly in relief may wish to consider whether emergency loans require implementation periods longer than the two or three years as now practiced. The related pressure on implementing agencies and staff to proceed and disburse within this timeframe can be counterproductive if it discourages many of the positive steps outlined above.

Nonetheless, the pace of recovery is expected to accelerate in 2006. Most of the institutional structures required for administration of recovery efforts will be fully in place, and capacity building efforts will begin to achieve results. Efforts at strengthening coordination and cooperation among the development agencies and between the development community and governments are continuing, with the expectation of increased efficiencies in the near future. Learning from the problems experienced in 2005, adjustments in how funds are moved and projects approved will continue to be explored.

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In the 12 months since the Andaman Earthquake and Indian Ocean Tsunami decimated entire communities and damaged large tracts of coastline, ADB has been working closely with governments and development partners as emphasis shifted from emergency relief to rehabilitation and reconstruction.

Within two weeks of the disaster, ADB teams were actively helping lead, coordinate, and prepare damage and needs assessments. Within six weeks a \$600 million Asian Tsunami Fund grant facility had been established. And within four months, most of the funds had been committed, including the largest-ever single ADB grant—\$300 million to Indonesia, the hardest hit of the tsunami-affected countries. Including reallocated and new lending, a total of \$851 million has been committed for tsunami-related assistance.

This report summarizes ADB's response to the earthquake and tsunami during the first year. It highlights major activities, details project components, and identifies challenges ahead and lessons learned in responding to this unprecedented regional natural disaster.

About the Asian Development Bank

The Asian Development Bank (ADB)'s work is aimed at improving the welfare of the people of the Asia and Pacific region, particularly for the 1.9 billion who live on less than \$2 a day. Despite the success stories, Asia and the Pacific remains home to two thirds of the world's poor. ADB is a multilateral development finance institution owned by 64 members, 46 from the region and 18 from other parts of the globe. ADB's vision is a region free of poverty. Its mission is to help its developing member countries reduce poverty and improve their quality of life.

ADB's main instruments in providing help to its developing member countries are policy dialogues, loans, technical assistance, grants, guarantees, and equity investments. ADB's annual lending volume is typically about \$6 billion, with technical assistance provided usually totaling about \$180 million a year.

ADB's headquarters is in Manila. It has 26 offices around the world. The organization has more than 2,000 employees from over 50 countries.

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